

(19) World Intellectual Property  
Organization  
International Bureau



(43) International Publication Date  
16 December 2004 (16.12.2004)

PCT

(10) International Publication Number  
**WO 2004/109982 A3**

(51) International Patent Classification?: **H04L 12/28,**  
H04W 3/024

(21) International Application Number:  
PCT/JP2004/008056

(22) International Filing Date: 3 June 2004 (03.06.2004)

(25) Filing Language: English

(26) Publication Language: English

(30) Priority Data:  
2003-159989 4 June 2003 (04.06.2003) JP

(71) Applicant (for all designated States except US): MAT-  
SUSHITA ELECTRIC INDUSTRIAL CO., LTD.  
[JP/JP]; 1006, Oazakadoma, Kadoma-shi, Osaka 5718501  
(JP).

(72) Inventors; and

(75) Inventors/Applicants (for US only): MORIOKA,  
Masaaki. NASU, Hidetada. SUGIMOTO, Kuniaki.

(74) Agent: NAKAJIMA, Shiro; 6F, Yodogawa 5-Bankan,  
2-1, Toyosaki 3-chome, Kita-ku, Osaka-shi, Osaka  
5310072 (JP).

(81) Designated States (unless otherwise indicated, for every  
kind of national protection available): AE, AG, AL, AM,  
AT, AU, AZ, BA, BB, BG, BR, BW, BY, BZ, CA, CH, CN,  
CO, CR, CU, CZ, DE, DK, DM, DZ, EC, EE, EG, ES, FI,  
GB, GD, GE, GH, GM, HR, HU, ID, IL, IN, IS, JP, KE,  
KG, KP, KR, KZ, LC, LK, LR, LS, LT, LU, LV, MA, MD,  
MG, MK, MN, MW, MX, MZ, NA, NI, NO, NZ, OM, PG,  
PH, PL, PT, RO, RU, SC, SD, SE, SG, SK, SL, SY, TJ, TM,  
TN, TR, TT, TZ, UA, UG, US, UZ, VC, VN, YU, ZA, ZM,  
ZW.

(84) Designated States (unless otherwise indicated, for every  
kind of regional protection available): ARIPO (BW, GH,  
GM, KE, LS, MW, MZ, NA, SD, SL, SZ, TZ, UG, ZM,  
ZW), Eurasian (AM, AZ, BY, KG, KZ, MD, RU, TJ, TM),  
European (AT, BE, BG, CH, CY, CZ, DE, DK, EE, ES, FI,  
FR, GB, GR, HU, IE, IT, LU, MC, NL, PL, PT, RO, SE, SI,  
SK, TR), OAPI (BF, BJ, CF, CG, CI, CM, GA, GN, GQ,  
GW, ML, MR, NE, SN, TD, TG).

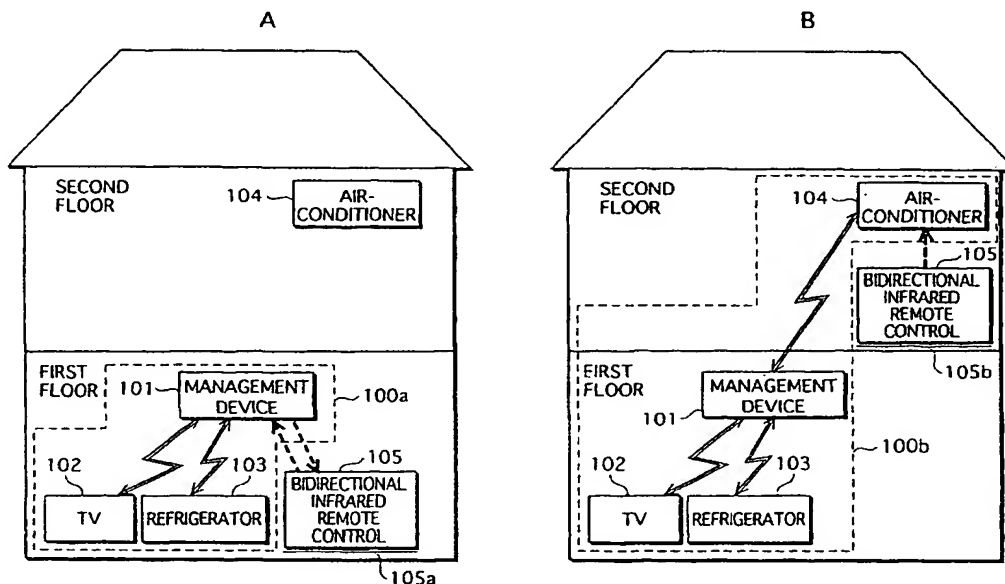
Published:

— with international search report  
— with amended claims

(88) Date of publication of the international search report:  
3 March 2005

[Continued on next page]

(54) Title: SECURE AUTHENTICATION IN A WIRELESS HOME NETWORK



(57) Abstract: A common key is obtained from a management device 101 by operating a bidirectional infrared remote control 105 at a location 105a via an infrared communication, the management device 101 being connected to a wireless network. The common key is transmitted to an air-conditioner 104 from bidirectional infrared remote control 105, after carrying the bidirectional infrared remote control 105 to a location 105b where it is possible that the bidirectional infrared remote control 105 and air-conditioner 104 communicate via the infrared communication.

ATTACHMENT B



Date of publication of the amended claims: 12 May 2005

*For two-letter codes and other abbreviations, refer to the "Guidance Notes on Codes and Abbreviations" appearing at the beginning of each regular issue of the PCT Gazette.*

management device obtaining data that is recorded in a recording medium and identical with the piece of initial data;

an authentication request unit operable to, based on the held data, request an authentication from the management device;

5 and

a communication unit operable to, when the authentication is successful, perform data communication via the wireless network with other registered communication devices.

10 13. An intermediate device comprising:

a receiving unit operable to, in registration of a communication device to a wireless network, receive on a predetermined carrier a piece of initial data from a management device;

15 a holding unit operable to hold the piece of initial data; and

a sending unit operable to send the piece of initial data to the communication device, using the predetermined carrier, wherein:

20 an area where the predetermined carrier reaches is narrower in comparison with any carrier for the wireless network.

14. (Amended) The intermediate device according to Claim 13, wherein:

25 different carriers are used in the receiving and the sending of the piece of initial data.

15. (Amended) The intermediate device according to Claim 13, further comprising:

an erase unit operable to erase the piece of initial data held in the holding unit.

16. (Amended) The intermediate device according to Claim 15,  
5 wherein:

the erase of the piece of initial data is performed when the piece of sent initial data is received by the communication device.

10 17. (Amended) The intermediate device according to Claim 16, wherein:

the erase unit confirms, by receiving a notification from the communication device, that the piece of initial data is received by the communication device.

15 18. (Amended) The intermediate device according to Claim 15, wherein:

the holding unit is a Ferroelectric Random Access Memory;  
and

20 the erasing of the piece of initial data is performed by destructive read of the piece of initial data.

19. (Amended) The intermediate device according to Claim 13, the device being a handheld type and movable from a first location  
25 to a second location, wherein:

the receiving unit receives the piece of initial data at the first location, from which the predetermined carrier reaches the management device; and

the sending unit sends the piece of initial data at the second

location, from which the predetermined carrier reaches the communication device.

20. An integrated circuit for management device of a wireless